

CHARGE PUMP CIRCUIT WITHOUT BODY EFFECTS

Abstract

A charge pump circuit has input and output nodes, a first transistor, a second transistor, a third transistor, a first capacitor, and a second capacitor. A drain of the first transistor and a drain of the second transistor are connected to the input node. A source of the second transistor and a drain of the third transistor are connected to the output node. The first capacitor is connected to a gate of the second transistor. The third transistor is connected to a substrate and a source of the second transistor. When the first transistor is turned on, a voltage at the input node will charge the first capacitor. When the second transistor is turned on, the third transistor is turned on simultaneously so that the substrate and the source of the second transistor will reach the same voltage level. Then, voltage at the input node will charge the second capacitor.